DIGITAL V8

STATION DE TRAITEMENT NUMERIQUE - DIGITAL HEADEND

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A INTRODUCTION:

DIGITAL V8 is a Compact Receiver Station for satellite & terrestrial digital tv. It can be configured at the customer's choice. The product integrates 8 completely independent receiver/modulator modules + launch amplifier + power supply + programmer.

DIGITAL V8 offers the flexibility to mix cards for Satellite reception (**QPSK/PAL**) and Digital Terrestrial reception (**OFDM/PAL**), with the individual choice for each module to have built-in, a wideband mono/stereo modulator (**DSB** or **VSB** type for applications with adjacent channels).

By means of low losses RF bridges, the output of each module can be mixed and redirected to a launch amplifier with high output level, in order to have a distribution of all the system channels through one single cable, which makes it compatible with old and new buildings owing to the small space required. As well, this system allows existing antenna mixing and cascading with several stations to reach the desired number of channels in every network.

DIGITAL V8 incorporates several set-up methods, by means of friendly **OSD** menus which can be selected from the front switches available in each card, from a IR remote control or from a **RS232** programmer (with display). Also it can be remotely programmed from any TV set located at any point of the distribution, so that the operator, whether a community building, hotel or hospital… can easily access and control the station parameters. Even it can be programmed by **GSM** system (VDI GSM).

All modules are mounted in a robust aluminium compact station of reduced dimensions, which could be mounted on a rack or wall support, with simplicity of assembly and upgrade, with fan system useful for any temperature environment, and protected with key against the access of unauthorized personnel.

B MODELS AND ACCESSORIES:

VDI BOX	Compact station + P. Supply +Re. Control+ fans
VDI SAT	QPSK Module +VSB-VU- Mono Modulator
VDI TNT	COFDM Module+VSB-VU- Mono Modulator
VDI LINK	Station remote control accessoire
VDI MOD	VSB VU stereo modulator
VDI PROG	RS232 Programmer
VDI ZAP	Infrared remote control
VDI PCMCIA	PCMCIA card reader
VDI CARD	Multicrypt card reader
VDI GSM	Station programmation system for GSM
VDI 19"	19" rack adapter

C MOUNTING THE MODULES

For installation of the **QPSK/OFDM** modules first open the general **DIGITAL V8** cover (see FIG1). Slip the receiver modules in the plastic guide (FIG5A) and fix them by means of screws to the upper bar and the lower base (FIG5B, C). FIG3A/B/C shows the connectors for the input and output (RF, video, audio L/R) as well as those for programming and feeding the module.

D CONNECTIONS AND INSTALLATION

NOTE: While you carry out the connections, assure yourself that general feeding at **230V** is disconnected.

Connect the power supply cable (FIG5D) and input bridges (FIG 6-7). In FIG10 there is an example with 4 **OFDM** + 4 **QPSK**. For **OFDM** receivers we recommend to make groups of two receivers and use a distributor before (FIG6A). For wide band amplification connect RF bridges to the outputs (FIG8), with load on the unused connector.

OUTPUT LEVEL ADJUSTMENT:

Connect the feeding cable to the central (FIG8A) and to the network. To start the process it´s very important to reduce to minimum the adjustment of RF level of all receivers (FIG3) and amplifier (FIG2). Under these conditions measure the maximum channel level at the amplifier output (by means of an analyzer). Then you should equalize all channels to this value (by means of RF level-FIG3) and after that, adjust the amplifier gain at the desired general level (FIG 2).

E SMATV SYSTEM

SMATV SYSTEM is the preconfigured system from factory. If you have already changed to **LINK SYSTEM** please go to step H1/2/3 and select **SMATV**. In SMATV System programmation is done directly on the station.

Connect the power supply after having done the connections. NEVER THE OPPOSITE.

To program a certain receiver you have three possibilities: By means of the programmer (FIG4A) by means of the infrared remote control (FIG4B) or by means of the frontal buttons (FIG3A). The programmer has its own display. Programmation by means of remote control or frontal buttons needs a tv-set (with its AV input connected to the **RCA** video output connector of the receiver we want to program (FIG3B, C). Then:

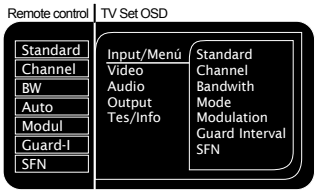
E1 Receiver Selection

If you use the programmer (FIG4A) connect it to the **RS232** of the required receiver and press the ESC key (READY or the first parameter to be adjusted will appear on the programmer screen). If you don´t use the programmer please press the frontal "M" button (FIG3A) and see the tv-set menu.

E2 Inputs parameters

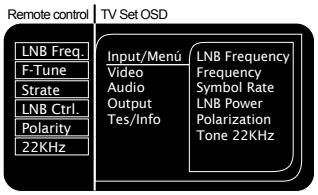
A **For OFDM** receivers, press the IN key (Programmer), MENU (Remote control) or M (frontal buttons) and by means of the ◀▶ (+/-) keys select select the input RF standard (B/G, I, L / D / K, BB). To select the other input parameters press successively the IN/ ▼key. With ◀▶ (+/-) keys select the input channel (e5-e69), the bandwidth (6,7,8 MHz, Auto), the transmission mode (2K, 8K, Auto), the modulation system (Auto), the guard interval (Auto, 1/32, 1/16, 1/8, 1/4) and the **SFN** algorithm (NO for static reception).

NOTE: Is convenient to select AUTO in the maximum number of fields that you can. The following menus will appear in the programmer and in tv-set **OSD**.



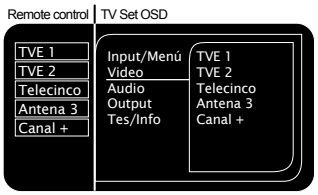
B For **QPSK** receivers, press the IN key (Programmer), MENU (Remote control) or M (frontal buttons) and by means of number/ ◀▶ (+/-) keys select the **LNB** LO frequency (typ 10600 or 09750).

To select the other input parameters press successively the IN/ ▼ key. With number/ ◀▶ (+/-) keys select the required transponder frequency (10700-12750), the transmission symbol rate (for example 22000), the **LNB** power supply (one receiver for **LNB**), the required polarity of the **LNB** (Quatro(Recommended) VER/14V, HOR/18V) and the activation of 22KHz (for the high band of an universal **LNB**). The following menus will appear in the programmer and in tv-set **OSD**.



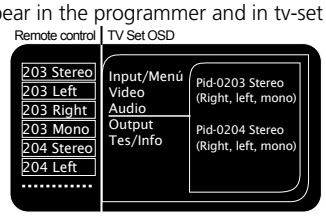
E3 Press the VIDEO key (Programmer), RED key (Remote control) or M (frontal buttons). After a few seconds the screen will display LOCK OK indicating that the tuner has been locked.

The WAIT PAT message will appear (while the unit scans the channels) and then the first program of the transponder will appear. Note: In case the channels do not appear (NO TAB), please revise the previous adjustments. Use the ▼ key to select the required video program. The following menus will appear in the programmer and in tv-set **OSD**:



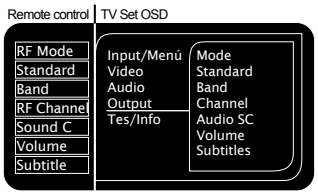
NOTE: If the program is coded an asterisk or () will appear on the screen.

E4 Press the AUDIO key (Programmer), GREEN key (Remote control) or M (frontal buttons) and by means of ▶▼ keys select the required audio program and mode (stereo, mono,L,R). The following menus will appear in the programmer and in tv-set **OSD**:



NOTE: The receiver starts automatically in STEREO or MONO according to the type of modulator incorporated in the receiver.

E5 Press the OUT key (Programmer), YELLOW key (Remote control) or M (frontal buttons) and by means of ◀▶ keys select the required video standard (**PAL/SECAM**). To select the other output parameters press successively the OUT/▼ key. With ◀▶ (+/-) keys select the RF standard (**B/G,I,L/D/K,BB**), the band (E,S), the output channel (E5,E69, S03/S41), the audio subcarrier (4,5-5,5-6-6,5), the sound level and subtitles (if exists). The following menus will appear in the programmer and in tv-set **OSD**:



E6 Press the «OK» key (the message STORED and READY will appear on the programmer display and the menu will disappear from tv-set (indicating that the changes have been saved). Press «ESC» to exit without saving the changes.

NOTES:

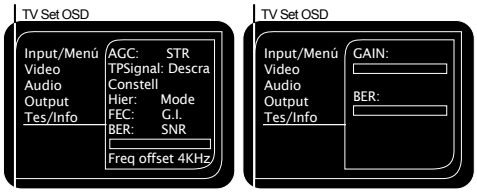
· It is not possible to memorise channel parameters if the receiver doesn't receive signal.

· If the input signal disappears or the tuning lock is not correct, the receiver will be on «stand by» with automatic retuning system every 20seg (Prog. control will show «WaitXM»). If you want to re-start yourself the unit, disconnect for a while the power supply.

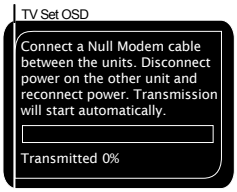
· Press ESC at any time to exit or OK to save the changes (they will automatically be saved after 10 minutes).

· For QUATTRO **LNB**s (recommended) adjust the polarity in QUATTRO position (18Vdc). See step E2/B of the programming instructions .

· Pressing the TEST key will appear the soft version and the information of the following figures:



If you want to update the **QPSK/OFDM** receiver soft from another unit, press IN and R5 on the master unit programmer (It will appear the next figure). Interconnect units by **RS232**. Disconnect and connect power supply on the client unit.


TV Set OSD
Connect a Null Modem cable between the units. Disconnect power on the other unit and reconnect power. Transmission will start automatically.
Transmitted 0%

- If a software update program is available in your PC, connect the receiver to the serial port (with **MS2696** cable). Send the update file using the Hyperterminal program included in Windows. After sending the order, connect the receiver to power supply.

TECHNICAL CHARACTERISTICS (QPSK / OFDM Receivers)

· Tuner / demodulator

	VDI TNT
Input frequency	174-230 / 470-862 MHz <<<<
Input level	35-85 dBuV
Bandwith	6, 7, 8 MHz, Auto
Demodulation	OFDM -2 K / 8 K mode
Constellation	QPSK, 16 QAM, 64 QAM
Guard interval	1/32, 1/16, 1/8, 1/4
FEC	Auto (1/2, 2/3, 3/4, 5/6, 7/8)
Symbol rate	up to 60 Msimb/seg.
	VDI SAT
Input frequency	950-2150 MHz
Input level	-25 / -65 dBm
IF Bandwith	36 MHz max.
Demodulation	QPSK ETS 300421
FEC	Auto (1/2, 2/3, 3/4, 5/6, 7/8)
LNB Power Supply	13 V / 18 V (200 mA) 0/22 KHz *

· General

	VDI TNT - VDI SAT
Dimensions	200 x 110 mm
Temperature	-5º a +55º C
Supply voltage	24/12/5/3.3 VDC

	VDI TNT - VDI SAT
· Video decoder	
System	MPEG 2
Video format	4/3, 16/9
· Audio decoder	
System	MPEG 1 layer I/II
Sample freq.	32, 44, 48, 96 KHz
Audio format	stereo, mono
· Programmer	
Display	LCD 8 charact.-2 lines
Keys	27
Interface	RS232
· Connections & signals	
RF inp. loop through	IEC / F connectors (2)
RF out. loop through	F fem. connectors (2)
Program interface	DIN DB-9
Interm. red led (1s)	uP Supplied
Interm. red led (0,5s)	Programmation mode
Green led	Tuned to one channel
Stream bus	8 bits - parallel

· Modulator

	VDI TNT - VDI SAT
Modulator type	VSB (Mono) 120-860 MHz
Standards	PAL BG DK I BB SECAM L
Audio subcarriers	4,5 - 5,5 - 6 - 6,5
Mixing losses	< 1 dB
Output level	85 (-0-20) dBuV
Spureous (VSB)	> 60 dB (for OUT. Level ≤ 80 dBuV

*Note: Max. two LNB for each DigiCompact8 (18dVc & 500mA max)

TECHNICAL CHARACTERISTICS (Amplifiers)

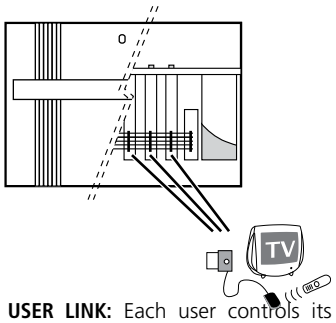
· Amplifiers

Terrestre	VDI AMP
Inp. frequency	120-862 MHz
Max. gain	38 dB (0/-20)
Out level (DIN45004B)	110 dBuV
RF Mixing Loss	< 1,5 dB (47-862 MHz)

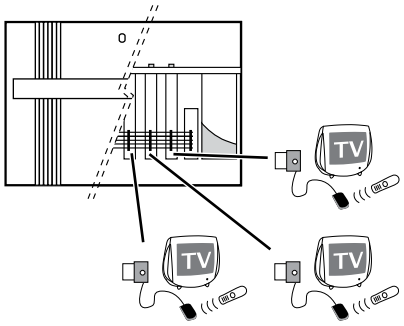
F LINK SYSTEM

DIGITAL V8 station comes from the factory, preset to the **SMATV** system, that is say that programmation must be done directly on the station. There exists another possibility which is the remote programming by means of the **LINK SYSTEM** with 2 different subsystems.

VDI LINK: All the cards are controlled from one single point (i.e from the hotel reception).See fig 16.



VDI USER LINK: Each user controls its own card (i.e : in one collective building or in a small hotel). See fig 15.



In the TV outlet from we want to control the head-end, there should install a **VDI LINK** equipment (cod. **MS1699**). For the **HOTEL MODE**, the switch should be situated in 0111111 (FIG16). For the **USER MODE**, the switch should be situated according to the FIG17, depending of the RF channel assigned to each user (See paragraph H5 and FIG.15).
NOTE : Position 1 = ON

G REMOTE CONTROL (Fig. 4b)

The remote programming within the **LINK** system, is carried out exclusively with the remote control. The available buttons are the following:

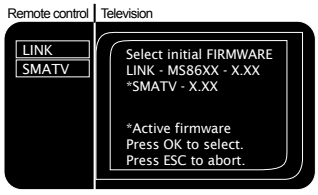
1. TV / Radio mode change (between TV channels and Radio channels)
2. Selection of channel number and introduction of the menu option number.
3. Mode teletext. and it's options.
4. Mode subtitles.
5. 9 Move the cursor up/down. Change the channels when one channel is being seen.
6. Press to display the Main Menu in the screen.
7. Show the channel list. Execute the selected option in the menu screen, or introduce the value in any input mode.
8. 18 Move the cursor to left/right. Move up/down one page in the channel list. Adjust the volume when one channel is being seen.
10. Pressing successively, displays the channel and program information.
11. In the **USER MODE**, starts or leaves in stand-by the receiver. In the **HOTEL MODE**, re-starts the receiver.
12. Show the favourite channel lists.
13. Return to the last tuned channel
14. Start the **EPG** (Electronic program guide)
15. Change the audio languages when you are seeing a channel.
16. Change between audio left / right / stereo.
17. Come back to the previous menu or go out from the options.
19. Press to switch off the sound temporally. Press again to return the sound back.
20. Pause.
21. Volume

H CONFIGURATION OF THE CARDS WITH THE "LINK SYSTEM"

H1 Connect the video output of the receiver which we want to configure to the AV input of one TV. The following process should be done for all the receiver cards of the head-end. It is indispensable to adjust the modulator of each card to one different channel (example: card 1 to channel 23 of UHF, card 2 to channel 5 of VHF etc...)

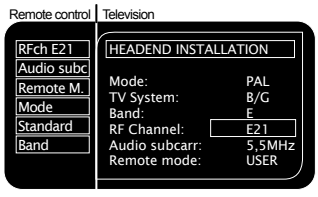
H2 If you have one programmer (FIG4A), connect it to the input connector RS232 from the receiver to be programmed. If you don't have this programmer, use the IR remote control or the frontal push-buttons to perform the following instructions.

H3 Press and maintain pressed the frontal key **OK** while the general power supply is momentarily interrupted (FIG8-A) or while the Reset button is pressed (FIG3B/3C). The **OK** key should be maintained pressed until it appears the following menu (in the programmer display or on the television screen).



By means of the keys ▲▼, choose the **LINK** option and press **OK**. The receiver will automatically be re-started. **Note:** Any receiver configured to the **LINK** system can be return back to the **SMATV** system, repeating the section 3 for this option.

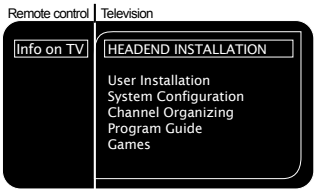
H4 Wait until it appears the initial menu in the TV screen. If there is no signal, then it will appear the following screen.



NOTE: If this screen doesn't appear, then press successively the front key M.

H5 By means of the keys ◀▶ (Programmer/Remote control) or the keys + / - (push buttons), choose the desired output channel.

H6 In order to select the other parameters of the **HEADEND INSTALLATION** screen, press successively the key ▼. With the keys ◀▶ (+ -) select the audio subcarrier (4,5-5,5-6-6,5), the **LINK** mode of remote programming (**Hotel** or **User** according to paragraph F), the desired video norm (**PAL**, **SECAM**), the RF standard (**BG**, **BGItalia**, **I**, **L**, **DK**, **BB**) and the frequency band (**E** ,**S**).
Now press OK to save the changes and go out of the current screen by pressing the key ESC (programmer), EXIT (remote control) or M (push buttons). It will appear the message PLEASE WAIT. Next, by means of the keys ▲▼ ◀▶ (+ -), go to the system configuration/languaje option, press OK and with the arrows ◀▶ (+ -) choose the desired language. Press OK and then, press again ESC, EXIT or M. It will appear in the programmer or in the TV screen, the following screen:



If you desire to go out from the "programming mode" (red led is blinking every 0,5 sec) press again ESC, EXIT or M. The system will also automatically go out of the programming mode, after 30 seconds without detecting any key being pressed.

I INSTALLATION AND CHANNEL TUNING

Connect the video output of the receiver which you want to tune to the AV input of one television to view the menus. Refer now the following steps, you have two option:

I1 TUNING OPTION DIRECTLY FROM THE STATION

If the receiver is in the "non programming" position (red led blinking every sec.), press the front key M to enter again in programming mode (red led blinking every 0,5 sec) and then, press ESC/EXIT or M twice (as in the previous section). It will appear the following menu:

By means of the keys ▲▼ ◀▶ (+ -) (Remote control focused to the front sensor of the receiver or their push buttons), you will be able to access to the menus of the paragraph J and tune in the channels.

I2 TUNING OPTION FROM VDI LINK

We recommend that before installing the **VDI LINK** in the user socket, first to install it in the head-end output. Connect the **VDI LINK** according to the FIG11 (if you use the amplifier or according to the FIG12 (if you use another amplifier type). In this last case you need an 11MHz by-pass.

Depending on how you have programmed the receiver cards (refer to paragraph H6), put the **VDI LINK** switch in HOTEL position (0111111) or USER position (See FIG17 for the **RF output** channel of the receiver to be programmed).

Now focus the remote control to the sensor of the **VDI LINK** and press the key MENU. If you are in USER mode, it will appear the next screen.

If you were in HOTEL mode, you should select the

desired receiver. To do it, it will appear a code in the screen (for example 7921)

Press this code in the remote control (the figures will be signalised when you press the keys). Next it will be displayed the screen previously indicated (Installation, Configuration...).

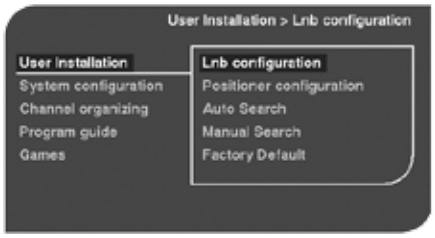
By means of the remote control keys (focused to the sensor of the VDI LINK) you will be able to access to the menus of the following section and to configure and to tune the channel of each receiver.

J USER INSTALLATION MENUS

To display the menu lists, press the keys ▶◀▲▼ and to confirm it presses the OK key. It can also be used the numeric keys in the remote control to directly introduce a numeric value to see the TV. Use the keys ◀▶ to move to the left or the right from a line to the other. Use the keys ▼ or ▲ to move the cursor up and down in the submenu. To leave the menu system in any time, press the EXIT key in the remote control. Next we present the different available menus for each option of the previous fig. If you have a OFDM receiver go to step J4.

J1 User installation / LNB Configuration Menu

(available only on the satellite **QPSK** cards)



This menu allows to configure the **LNB** - antenna to a certain satellite. In the case of having several connected antennas to the receiver by means of a **DiSEqC** switch, then it will be necessary to configure this menu for each dish. In Hotel Link mode we always recommend to use QUATRO LNBs with QPSK boards connected to the desired outputs. You can also use a DiSEqC switch (see fig 15 & 16).

Parameters to be adjusted:

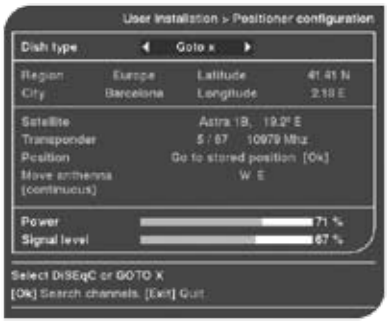
- **Satellite:** Select the desired satellite by means of the keys ◀▶.
- **DiSEqC Mode** (only in case of multiple antenna installation): Select the **DiSEqC** value corresponding to the input of the **DiSEqC** switch used by antenna to be configured. (DiSEqC A/B/C/D - Tone A/B - OFF)
- **Low frequency:** Value in MHz of the OL (Local Oscillator) of the **LNB** for the low band (See LNB label). 9,750MHz for universal **LNB**s.
- **High frequency:** Value in MHz of the OL of the **LNB** for the high band (see LNB label). 10,600MHz for universal **LNB**s.
- **Tone of 22KHz:** For Quatro LNBs use ON for high band outputs and OFF for low band outputs. For DiSEqC switches (or Universal LNBs) use AUTO.
- **Commutation 0/12V** (only if it has this specific switch). Select the value corresponding to the input of the switch.
- **LNB:** Select ON or OFF depending if you want to feed the **LNB** from the receiver. Attention: Only one receiver can feed every LNB.

At the end press OK to store the changes or EXIT to leave the menu.

J2 User inst / GOTOX Positionner Configuration Menu

(Available only on the satellite **QPSK** cards)

It allows configuring an antenna motor for the reception of several satellites. Attention: You can use only one polar antenna per each DigiCompact8 (see fig 16/J2)



Parameters to be adjusted for motor **GOTOX**:

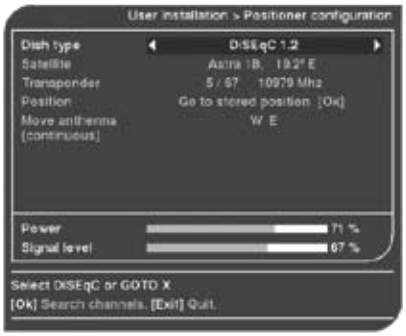
- **Antenna type:** For antennas with motor **GOTOX** select this option. If the motor is **DiSEqC1.2** then go to the following section.
- **Region/City:** Select the area and city that corresponds to the reception position. Automatically it will be informed of the longitude and latitude. Adjust to this latitude the elevation of the motor regarding the mast.
- **Satellite:** Select the desired satellite.
- **Transponder:** Select the desired transponder for the orientation of the antenna and signal level among all those available on the memorized list. If you want to add or to remove transponders, then go to the Installation/Manual search menu.
- **Position:** When needed that the motor rotates to the position of the selected satellite, press OK in the option to GO TO THE POSITION (OK). If you want to store a new position obtained with "Moving antenna", then select with the keys ◀▶ the option KEEP POSITION and press OK. Anyway it is preferable to do a fine alignment of the antenna position. To return to the default factory memorization, press the red key (Reset of the motor). With the green key the signal will automatically be optimized.
- **Move antenna:** By means of the keys ◀▶ you will be able to move the antenna West/East. Select with the blue key the movement type (step by step or continuous mode).

When concluding the adjustments of this menu you will be able to press OK to look for the channels available in the satellite (Automatic search menu) or EXIT to leave the adjustments. In the first case you will be able to choose which type of channels are to be displayed (all, only the free to air or only those belonging to a certain network).

During all the process, two level bars are displayed to inform about the power and signal level.

J3 User inst/DiSEqC 1.2 Positionner Config. menu

(Available only in the **QPSK** satellite cards) Attention: You can use only one polar antenna per each DigiCompact8 (see fig 16/J2)

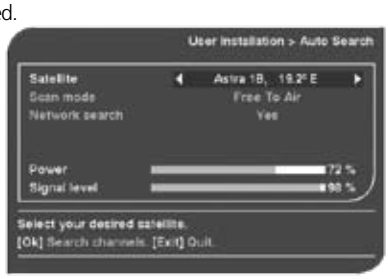


- **Antenna type:** Select this option in case of applications with antennas and motor **DiSEqC1.2**. If the motor is **GOTOX** type, then go to the previous section.
- **Satellite:** Select the desired satellite
- **Transponder:** Select the desired transponder for the orientation of the antenna and signal level among all those available on the memorized list. If you want to add or to remove transponders, then go to the Installation/Manual search menu.
- **Position:** When needed that the motor rotates to the position of the selected satellite, press OK in the option to GO TO THE POSITION (OK). If you want to store a new position obtained with "Moving antenna", then select with the keys ◀▶ the option KEEP POSITION and press OK. To reset the motor press the red key (Reset of the motor). With the green key the signal will automatically be optimized.
- **Move antenna:** By means of the keys ◀▶ you will be able to move the antenna West/East. Select with the blue key the movement type (step by step or continuous mode).

When concluding the adjustments of this menu you will be able to press OK to look for the channels available in the satellite (Automatic search menu) or EXIT to leave the adjustments. During all the process, two level bars are displayed to inform about the power and signal level.

J4 User Installation-Automatic Search Menu

This menu configures the automatic search of channels in all the memorized transponders. Parameters to be adjusted.



- **Satellite:** Select the desired satellite (option only available in **QPSK** cards)
- **Search type:** Select **FTA** channels or all (**FTA**+Coded)
- **Search net:** Select NO for searching all channels and YES to find new channels only on the current network (option only in **QPSK** cards)

When concluding the adjustments of this menu you will be able to press EXIT to leave the menu or OK to search for the channels of the current satellite. The process may take few minutes.

J5 User Installation/Manual search

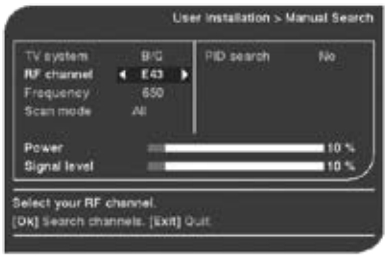
This menu configures the manual search of the channels in the chosen transponder.

Parameters to be adjusted for QPSK cards:

- **Satellite:** Select the desired satellite.
- **Position:** The longitude of the satellite is given
- **Transponder:** You will be able to choose a transponder of those memorized on the list. The transponder can also be edited.
- **Frequency:** It can be edited.
- **Rate:** The symbol rate can also be edited.
- **Polarity:** Horizontal, Vertical, Left, Right.
- **Search:** Free to air or all (**FTA** + coded).
- **Look for PID:** to edit the **PID** of video, audio, teletext and/or **PCR**, then choose YES, and press OK.

When concluding the adjustments of this menu you will be able to press EXIT to leave the menu or press OK to search for the channels of the transponder. Please wait until the operation ends.

Parameters to be adjusted for OFDM cards:



- **TV System:** Select the channel plan system **V/UHF** of your country (**B/G**, **I**, **L** etc..).
- **RF Channel:** Select the channel **V/UHF** that wants to be searched.
- **Frequency:** Select the frequency value.
- **Search:** Free to air or all (**FTA** + coded).
- **Look for PID:** If you want to edit the **PID** of video, audio, teletext and/or **PCR**, then choose YES, and press OK.

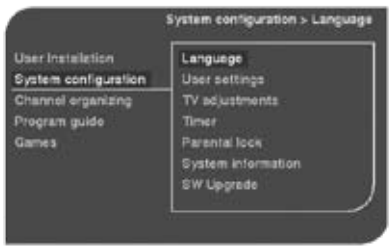
J6 User inst/Factory default values

With this menu you can return to the initial situation of production of the receiver. It will request if you want to maintain the current language. Press OK to continue or EXIT to quit.

K SYSTEM CONFIGURATION MENU

K1 System Configuration

This menu offers the following options.



Choose the desired submenu by means of the ▲▼ and OK keys.

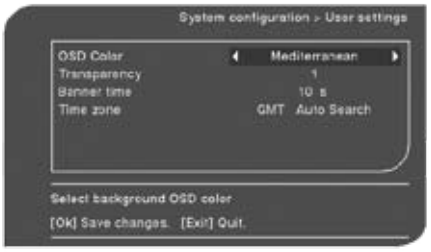
K2 Languages

This menu offers the following options.

Choose the language for each option by means of the ◀▶ and OK keys. Press OK to store the changes or EXIT to quit.

K3 User

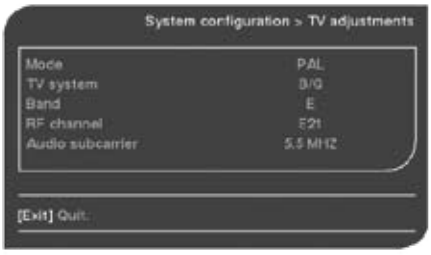
This menu offers the following options.


System configuration > User settings
OSD Color Mediterranean
Transparency 1
Banner time 10 s
Time zone GMT Auto Search
Select background OSD color
[Ok] Save changes. [Exit] Quit.

Parameters to be adjusted:

- **Screen Colour / Transparency level:** Select the colour and transparency level from the menu options as you wish.
- **Time of active menu:** It's the time that the menus will remain in screen (not those of installation). Please remember that after this time, any information enquiry will require to enter a code in the remote control (if it is in Hotel mode).
- **Time Area:** Select the time area of your country (For example: GMT+1 for Europe western winter).
- **Starting Channel:** Option available according to the software version

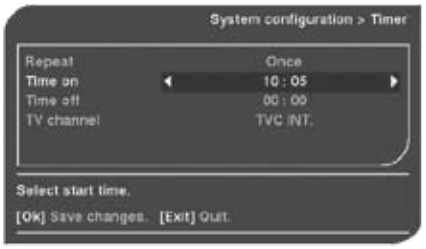
K4 TV Adjustment



The parameters on this screen can not be modified from the system **LINK**. Only can be configured directly from the headend (menu **HEADEND INSTALLATION**) following the instructions in section H.

K5 Timer

This menu allows to switch on, to switch off and to change the channel in a temporized way. Follow the instructions of the receiver menu.


System configuration > Timer
Repeat Once
Time on 10 : 05
Time off 00 : 00
TV channel TVC INT.
Select start time.
[Ok] Save changes. [Exit] Quit.

K6 Paternal block

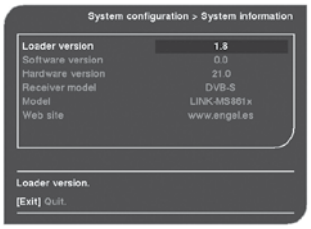
This option allows to block the menus (installation, configuration, favourite channels, Games), to block the channels and to change the **PIN** code. By means of the ◀▶ and OK keys, choose the desired options.

The first code by default is 0000. Note the new one in a secure place.

Menu's Lock option allows to the modulator in Hotel Link Mode to lock all menus (except channels and favorites menus). This option is very useful for Hotels to allow them to change channels on favourites lists without changing any system configuration.

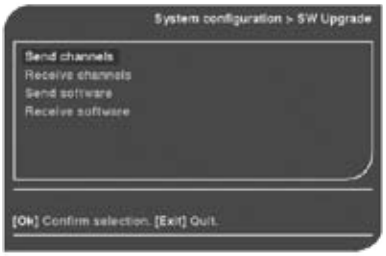
K7 Info system

This menu allows to know the following data:



K8 Data transfer

This menu allows to import and export channel lists and firmware from one receiver to other modules. Option available according to the software version



L CHANNEL MANAGEMENT MENU

This menu allows to manage the general list of program. To do this process, use the ◀▶ keys to highlight the left window.

On this screen you will be able to do the following:

- **Select a channel:** By means of or ▲▼
- **Delete a channel:** By means of red key
- **Delete the coded channels:** green key.

- **Move a channel:** By means of blue key
- **Order** (Alphabetically / by number): yellow key.
- **Add to favourite:** By means of the FAV key select the right window to the desired list of favourite (FAV1 to FAV8). Afterwards press the OK key.

To leave the menu press EXIT.
Otherwise, to manage the favourite channel list, press the ◄► keys to highlight the right window. Next, by means of the FAV key select the favourite list to be managed.

With this option you will be able to move a channel, to delete it and also to delete all the channels of the corresponding FAV list, in a similar way as with the general list.

M PROGRAMMING GUIDE MENU

This menu allows to visualize the program electronic guide. Information displayed is being sent by the own channels.

You will be able to perform the following:

- **Select the general list /favourite list:** FAV key
- **Order alphabetically/ by number:** yellow key
- **Select a channel:** ▲▼ keys or letters.
- **Select time table:** ◄► keys.

Note: You can access to this menu with the keys MENU, ▲▼, OK and also directly with the **EPG** key

N GAMES MENU

In this menu there are available three different games: **TETRIS**, **FROGGER** and **SOKOBAN**.

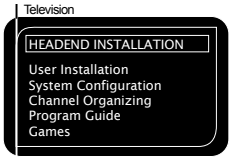
O EXIT FROM THE INSTALLATION MENU

To leave the installation menu press successively the ESC key. At the end an informative BANNER of the tuned channel will appear and after the time of active menu (adjusted in the section K3) it will disappear. If you want to enter again in Installation menu, then go to the section I3.

P CHANNEL SELECTION

P1 If you are not in the Programmation / Installation Menu, then focus the remote control to the sensor of the **VDI LINK** and press the MENU key. If the head-end is in HOTEL mode, then a code will be displayed on the screen (for example 7921).

Introduce in the remote control this code (the figures will be highlighted once you press the remote control.

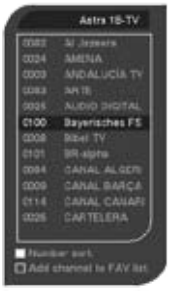


keys). Repeat some key if he doesn't remain highlighted. Next, it will appear the following screen.
Note: In USER mode, this screen will directly appear when pressing the MENU key from the remote control in front of the adjusted **VDI LINK** according to table 17. If you don't want to program the receiver module, then press the ESC key. An informative BANNER of the tuned channel will appear during the adjusted time in the section K3.

P2 To select the general list or the favourite lists, press successively the FAV key until the desired list appears in the screen. Note: In the general list, disappears the indication FAV.

P3 To select the channel you can perform any of the following options:

a) Press the ▲▼ keys successively.
b) Press directly the channel n°.
c) Press OK, the chosen list will appear.

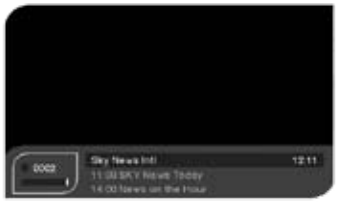


Next you will be able to select the channel by means of the ▲▼ keys or the numeric keys. To select the channel, press OK.

Note: In the option c, you can change the list (by pressing FAV key), to order alphabetically or by numbers (by pressing the yellow key) and to add the channel to a favourite list (by pressing the blue key and proceeding as indicated on the section L). To leave the menu, press EXIT or OK. To select RADIO channels, press the key TV-RADIO and act like indicated for the video channels. To make disappear the banner press the ESC key.

Q CHANNEL INFORMATION

At any time that a channel is visualized, you can request the channel guide. Follow the section P1 and press the INFO key. It will appear the corresponding information of the channel (if the broadcaster has send it).



Pressing the **EPG** key will appear the complete GUIDE of programs/channels (refer to the section M). This option is only available in UserLink mode

To make disappear the information, press the ESC key.

R1 ASSEMBLY OF THE VDI LINK IN THE HOTEL RECEPTION (refer to the section F)

1- Once the channels are tuned and tested on the head-end, the **VDI LINK** kit can be installed in the Hotel reception. If User mode is required follow the indications of the section R2.
The figures 13,14 and 16 indicate different examples of configurations. To tune the channels from the Hotel reception, follow the same steps carried out in head-end (sections P and Q). Nevertheless it will be necessary to tune the television to the V/UHF channel corresponding to the receiver that we want to visualize.

2-The main configuration of the receiver can also be modified in this stage (sections J to Q). Note: When you finish installation, we recomend to block all installation menus (see step 16).

R2 ASSEMBLY OF THE VDI LINK WITH THE USER MODE (refer to section F)

1- Once the channels are tuned and tested on the station with VDI LINK installed on the head-end, proceed to install the **VDI LINK** in each subscriber outlet. Remember: each user will control a single card. Therefore it will be necessary to adjust the switch of each **VDI LINK** according to the table 17 and the output channel assigned to the user. The television will also be tuned to every specific channel. The figures 13,14 and 15 indicate different examples of configurations.

To tune the channels from the **VDI LINK** located in the user's outlet, follow the steps carried out in head-end (section P and Q). The only difference is that now it won't be necessary to enter any code since the own **VDI LINK** adjusted according to table 17 directly establishes the corresponding code.

2- The same as in HOTEL mode, but now with the USER mode, you will be able to modify most of the configurations of the receiver (section J to Q).

S TECHNICAL NOTES (HOTEL or USER MODE):

If the receiver doesn't respond to the MENU key from the remote control:

1- Please verify the codification of every **VDI LINK**, make sure it corresponds with the table 17. (user mode) or fig 16 (Hotel mode).

2- Please verify the distribution network. Remember that all orders coming from the remote control are transmitted in reverse sense to the 11MHz signal. Therefore the reverse attenuation of the network to this frequency should not be bigger at 35dB. If in some point of the distribution there is a re-amplifier, use two **MV7306** to make a "bypass" of the 11MHz signal. Equally, if it's used an amplifier in the head-end different to the **MS8641/8640**, it will be necessary to mount a **MV7306** as indicated in the figure 14.

3- If the receiver continues without responding to the MENU key from the remote control, then verify the programmation of the **VDI LINK** mounted in the head-end again (refer to section I2)

4- IMPORTANT NOTE: For systems of remote programming it is indispensable that all the cards are programmed to different output RF channels (section H5).

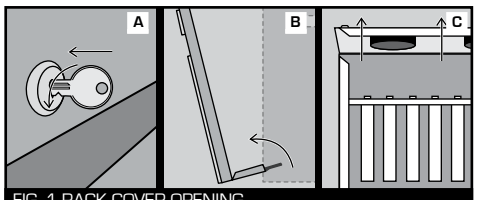


FIG. 1 RACK COVER OPENING

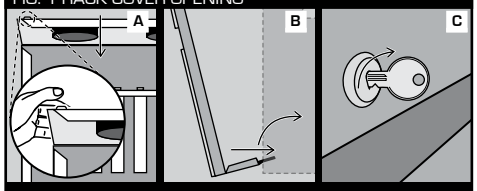


FIG. 1 RACK COVER CLOSING

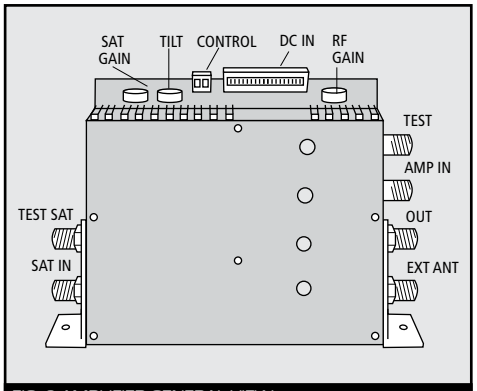


FIG. 2 AMPLIFIER GENERAL VIEW

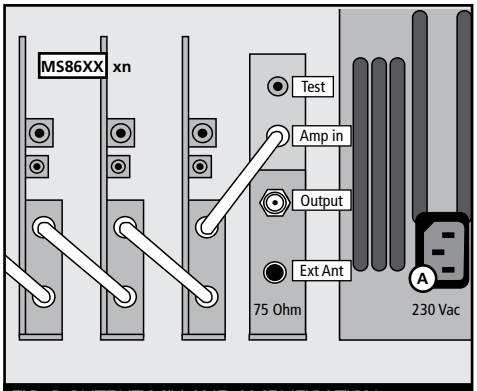


FIG. 8 OUTPUT MIX AND AMPLIFICATION

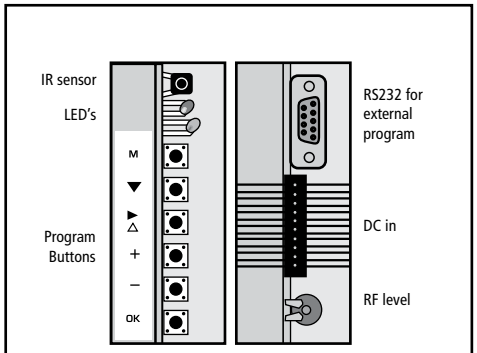


FIG. 3a CONTROL BUTTONS AND DC/RS232 CONNECTORS

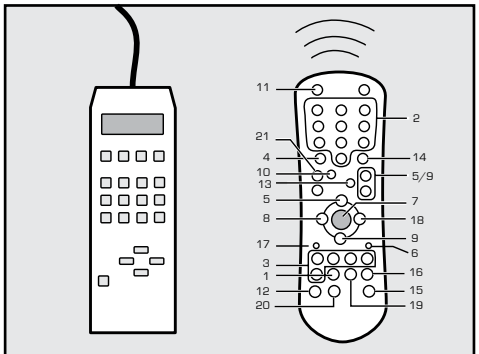


FIG. 4a PROGRAMMER / 4b REMOTE CONTROL

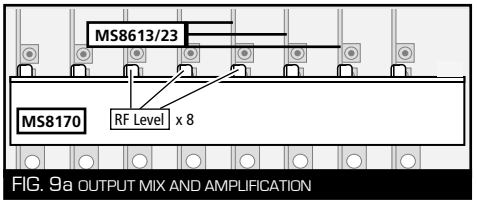


FIG. 9a OUTPUT MIX AND AMPLIFICATION

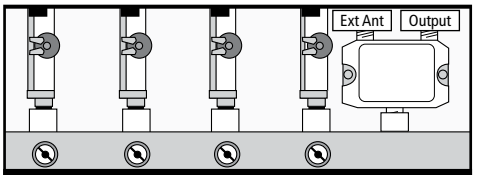


FIG. 9b EXT ANT MIX

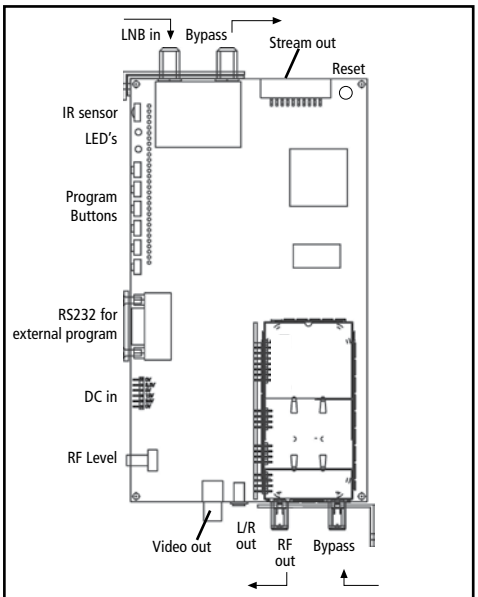


FIG. 3b QPSK GENERAL VIEW

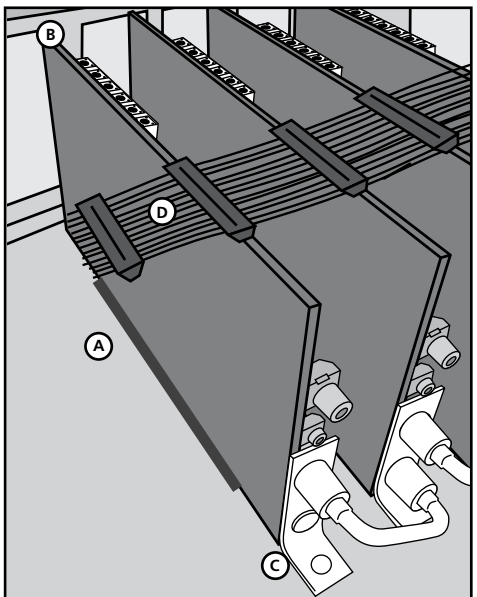


FIG. 5 PCB MOUNTING IN RACK

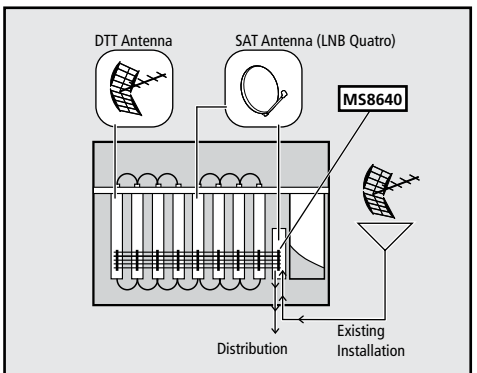


FIG. 10 DIGICOMPACT8 CONNECTIONS

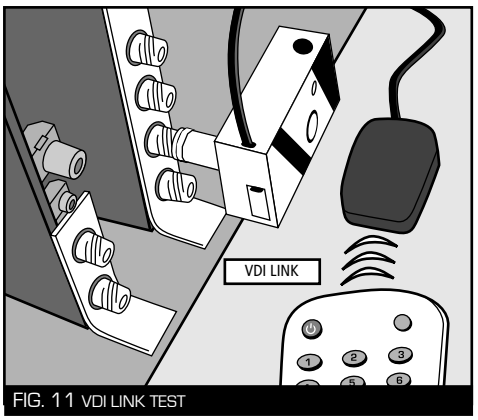


FIG. 11 VDI LINK TEST

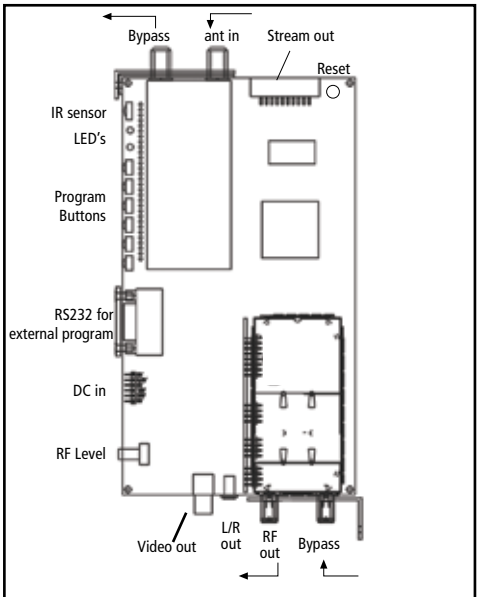


FIG. 3c OFDM GENERAL VIEW

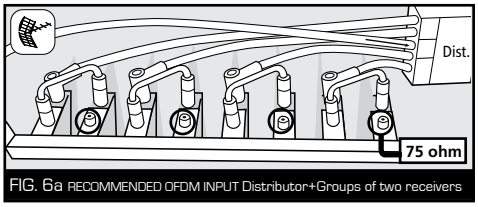


FIG. 6a RECOMMENDED OFDM INPUT Distributor+Groups of two receivers

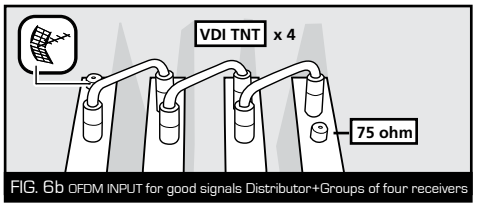


FIG. 6b OFDM INPUT for good signals Distributor+Groups of four receivers

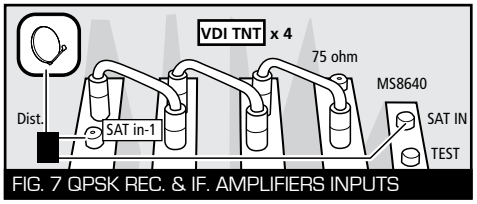


FIG. 7 QPSK REC. & IF. AMPLIFIERS INPUTS

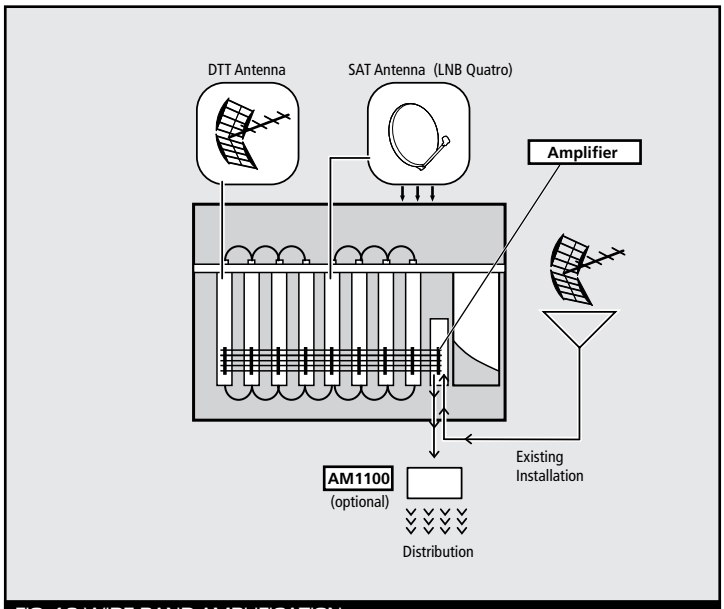


FIG. 13 WIDE BAND AMPLIFICATION

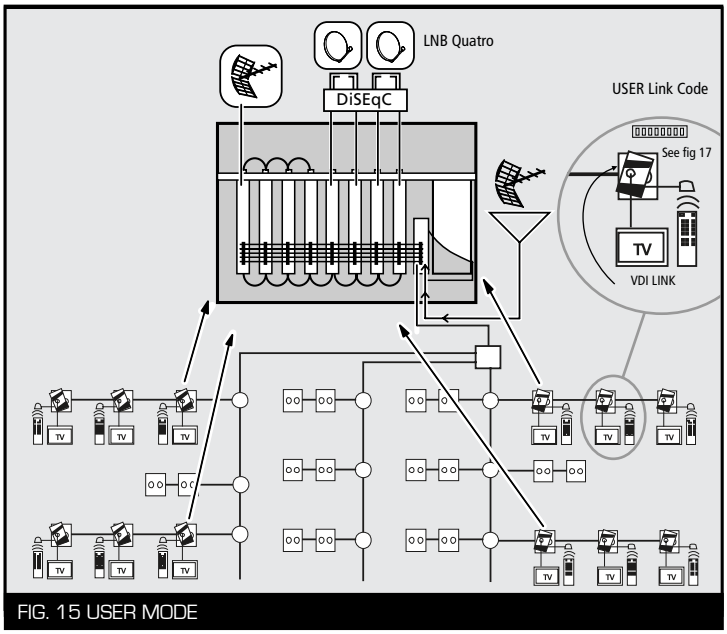


FIG. 15 USER MODE

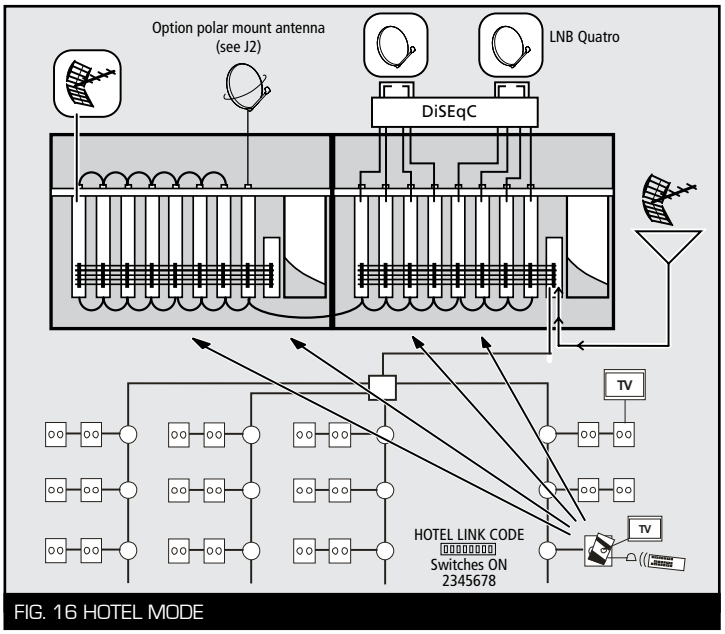


FIG. 16 HOTEL MODE

Channels			Switches ON								Channels			Switches ON							
ALL Standards	BGIt	BB	1	2	3	4	5	6	7	8	ALL Standards	BGIt	BB	1	2	3	4	5	6	7	8
S3				2					7		S16				2		4		6	7	8
S4				2					7	8	S17				2		4	5			
S5				2				6			S18				2		4	5			8
S6				2				6		8	S19				2		4	5		7	
S7				2				6	7		S20				2		4	5		7	8
S8				2				6	7	8	S21				2		4	5	6		
S9				2			5				S22				2		4	5	6		8
S10				2			5			8	S23				2			5	6	7	
E5	D			2			5		7		S24				2			5	6	7	8
E6	E	5A		2			5		7	8	S25				2	3					
E7	F	6		2			5	6			S26				2	3					8
E8	G	7		2			5	6		8	S27				2	3				7	
E9	H	8		2			5	6	7		S28				2	3				7	8
E10	H1	8 Syd		2			5	6	7	8	S29				2	3			6		
E11	H2	9		2		4					S30				2	3			6		8
E12		9A		2		4				8	S31				2	3			6	7	
		10		2	3	4				8	S32				2	3			6	7	8
		10N		2	3	4			7		S33				2	3		5			
		11		2	3	4			7	8	S34				2	3		5			8
		11N		2	3	4		6			S35				2	3		5		7	
		12		2	3	4		6		8	S36				2	3		5		7	8
S11				2		4			7		S37				2	3		5	6		
S12				2		4			7	8	S38				2	3		5	6		8
S13				2		4		6			S39				2	3		5	6	7	
S14				2		4		6		8	S40				2	3		5	6	7	8
S15				2		4		6	7		S41				2	3	4				

FIG. 17 a - USER CODE FOR VHF OUTPUT CHANNELS

Channels		Switches ON								Channels		Switches ON							
ALL Standards	BB	1	2	3	4	5	6	7	8	ALL Standards	BB	1	2	3	4	5	6	7	8
	20			3	4				8	E48					4	5		7	8
E21										E49					4	5	6		
E22									8	E50					4	5	6		8
E23								7		E51					4	5	6	7	
E24								7	8	E52					4	5	6	7	8
E25							6			E53				3					
E26							6		8	E54				3					8
E27							6	7		E55				3				7	
E28							6	7	8	E56				3				7	8
E29						5				E57				3			6		
E30						5			8	E58				3			6		8
E31						5		7		E59				3			6	7	
E32						5		7	8	E60				3			6	7	8
E33						5	6			E61				3		5			
E34						5	6		8	E62				3		5			8
E35						5	6	7		E63				3		5		7	
E36						5	6	7	8	E64				3		5		7	8
E37					4					E65				3		5	6		
E38					4				8	E66				3		5	6		8
E39					4			7		E67				3		5	6	7	
E40					4			7	8	E68				3		5	6	7	8
E41					4		6			E69				3	4				
E42					4		6		8		70			3	4			7	
E43					4		6	7			71			3	4			7	8
E44					4		6	7	8		72			3	4		6		
E45					4	5					73			3	4		6		8
E46					4	5			8		74			3	4		6	7	
E47					4	5		7			75			3	4		6	7	8

FIG. 17 b - USER CODE FOR UHF OUTPUT CHANNELS